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ABSTRACT

Many studies have supported the finding that alcohol consumption may lead to socially inappropriate behaviors. One theory which appears promising in accounting for the effects of intoxication is Hull's (1981) self-consciousness theory which is based on the idea that alcohol consumption affects behavior indirectly as a result of its effect on cognition. On the basis of Hull's self-consciousness theory of alcohol consumption, it was hypothesized that alcohol intoxication would decrease the self-awareness of subjects who were high in private self-consciousness. Seventeen male college students completed the Self-Consciousness Scale (SCS) and the Rokeach Value Survey (RVS)-Form G. During a second session, subjects were given an alcoholic beverage which raised their blood alcohol count to the target level of .075% and again completed the SCS and the RVS. Using the sober-intoxicated correlation scores from the RVS, a regression analysis was used to assess any relationship between private self-consciousness scores and a subject's self-report of values while intoxicated. It was hypothesized that as privare self-consciousness increased, the sober-intoxicated correlation would decrease. A similar regression analysis was conducted using the position movement scores. Using a median split, high and low private self-consciousness groups were compared for differences in position movement scores. Both regression analyses and the t-test showed nonsignificant results. (Author/NB)

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The Effect of Alcohol and Private Self-Consciousness on Self-Report of Values

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Paper presented at the 60th annual meeting of the Midwestern Psychological Association; April 28, 1988, Chicago IL

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Abstract

On the basis of Hull's (1981) self-awareness theory of alcohol consumption, it was hypothesized that alcohol intoxication (.075 BAC) would decrease the self-awareness of subjects who were high in private self-consciousness (Fenigstein, Scheier, & Buss, 1975). Using the sober-intoxicated correlation scores from the Rokeach Value Survey: Form G (Rokeach, 1973), a regression analysis was used to assess any relationship between private self-consciousness and subject's self-report of values while intoxicated. It was hypothesized that as private self-consciousness increased, the sober-intoxicated correlations would decrease. A similar regression analysis was conducted using the position movement scores (cumulative total of the number of positions each value moves between the sober-intoxicated conditions). Using a median split, high and low private self-consciousness groups were compared for differences in position movement scores. Both regression analyses and the *t* test showed non-significant results. Discussion concerns the use of the private self-consciousness scale and the Rokeach Value Survey as research tools.

Running head: ALCOHOL AND VALUES

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Introduction

Numerous studies on alcohol have supported the finding that alcohol consumption may lead to socially inappropriate behaviors such as aggression (Zeichner & Phil, 1979), violent crime (Shupe, 1954), inappropriate conversation styles (Smith, Parker, & Noble, 1975) and increasing self-disclosure (Steele & Southwick, 1985). Although these effects are well-documented, there is comparatively little understanding of how or why they occur. As a result, many theories have attempted to account for the effects of intoxication but few if any are actually comprehensive and many are difficult to test empirically. One of the more promising theories is Hull's (1981) self-awareness theory.

Hull's theory is based on the idea that alcohol consumption affects behavior indirectly as a result of its effect on cognition. While some systems maintain that alcohol has a direct pharmacological effect on motivational and affective states (Duvall & Wicklund, 1973), Hull theorizes that the pharmacological effects hamper cognitive processes which then mediate emotional states and behavior. He is also cautious to note that self-awareness theory is not presented as a complete explanation of alcohol use. It is intended only for a restricted range of phenomena which have empirical referents and are subject to disproof (Hull, 1981).

The cognitive processes which Hull (1986) claims are adversely affected by alcohol pertain to the organizational strategies used during the acquisition and storage of information. These organizational strategies, which include elaboration, associative cues, and schema, enable a person to classify and integrate new information with previously acquired information. Birnbaum, Parker, Hartley, and Noble's (1978) work supports this theory by demonstrating that alcohol impairs the storage of new information but has little effect on the retrieval processes. Subsequent work by Birnbaum, Johnson, Hartley, and Taylor (1980) found that intoxication reduced the production (or quality) of elaboration processing and may therefore render one unable to utilize contextual information. Based on this research, Birnbaum et al. (1980) concluded that alcohol-induced memory disruptions are linked to a decreased ability to use encoding strategies. This type of memory deficit, instigated by alcohol usage, has its greatest impact by inhibiting the subject's tendency to use associative cues and elaboration (Hull, 1986).

Self-Awareness Theory

According to Hull's (1981) self-awareness theory, the cognitive deficits in elaborative processing outlined by Birnbaum et al., (1978, 1980) are crucial to understanding how alcohol influences behavior. His theory uses these findings in conjunction with the dispositional trait of self-awareness

because of its function as an organizational process. Since self-awareness involves the processing of self-relevant information through the use of elaboration strategies (Rogers, Kuiper, & Kirker, 1977), any debilitating influence on elaboration abilities will result in a decrease in self-awareness. As mentioned before, alcohol does not directly effect self-awareness but instead, impairs memory strategies which mediate self-awareness.

These results have been supported by Hull and his colleagues and used as a foundation for the self-awareness theory of drinking. From the research already conducted (Hull & Levy, 1979; Hull, Levenson, Young, & Sher, 1983), several of the conclusions can be summarized as: (1) alcohol reduces self-awareness, (2) it does so by inhibiting higher-order encoding processes which affect how a person utilizes self-relevant information, and (3) since self-awareness is an encoding strategy, those who tend to encode information using self-awareness will be less responsive to their environment when intoxicated (Hull, 1987).

If Hull's (1981) theory is correct, these same effects should be present and measurable through other assessment devices besides those noted in his research. The objective of this study was to examine the effects of alcohol and self-awareness using a nonreactive dependent measure (Rokeach Value Survey) which is relevant to behavior. Previous research has used only learning tasks from which to generalize their results. If a significant relationship is found between self-awareness and the ability to encode self-referent information when using another method, the self-awareness model would generalize to a wider range of effects. The Rokeach Value Survey was selected as the dependent measure because it emphasizes individual differences and should provide a sensitive measure of one's ability to process information pertinent to the self.

Rokeach Value Survey

The Rokeach Value Survey (RVS) consists of two parts, each of which contains a list of 18 values arranged on gummed labels in alphabetical order. One list is designated as terminal values (desirable end-state of existence) and the other as instrumental values (desirable mode of behavior). The respondent's task is to rank order each list separately using the instructions "...arrange them in the order of their importance to you, as guiding principles in your life" (Rokeach, 1973). Each label can be repositioned as many times as the subject feels necessary. The average expected time for completion is 20-40 min.

The RVS was selected as the dependent measure for a number of reasons. The advantages to using the RVS include: (1) face validity - the RVS should provide a substantial amount of self-relevant material, (2) non-threatening - the RVS does not tend to elicit reactive responses because the values are perceived as

positve (Rokeach, 1973). Kelly, Silverman, and Cochrane (1972) also found that social desirability is not a factor in subjects' responses to the RVS, (3) test-retest correlation values are reasonably good (.70-.80 for terminal value list), (4) extensive use with college students and, (5) the survey can be completed in a highly individualistic manner. The disadvantages to using the RVS include: (1) the ranking procedure in the answer format, (2) lack of an intensity measure for subject response, (3) ambiguous interpretation of the different values (Mueller, 1974) and, (4) possible ommission of relevant values and high intercorrelations among some of the values included (Kitwood & Smithers, 1976).

Self-Consciousness Scale (SCS)

Throughout this discussion, reference has been made to Hull's (1981) theory of self-awareness. The instrument used in this study and in previous research to measure this trait is the private self-consciousness subscale of the SCS (Fenigstein, Scheier, & Buss, 1975). It should be noted that the two terms, self-consciousness and self-awareness, are similar in meaning and differ only in regard to their source. Self-consciousness, defined as the enduring cognitive trait which directs attention either outward or inward, determines an individual's level of self-awareness. Self-awareness refers to a state defined as "the existence of self-directed attention as a result of either transient situational variables, chronic disposition or both" (Fenigstein et al., 1975, p.522). Essentially, a person who is self-conscious will also be self-aware, although the degree of one's self-awareness may be contingent on situational variables (Hull & Levy, 1979).

The SCS is composed of 23 items that are answered on a 5-point scale (0-4). Each item is part of one of the three subscales used to measure the different aspects of self-consciousness as defined by Fenigstein et al. (1975). The instrument as a whole has been found to have considerable discriminant validity (Carver & Glass, 1976) and the distribution for each subscale is approximately normal and free from gender differences (Fenigstein et al., 1975). Test-retest reliability for the SCS over a 2 week period is .80 (Fenigstein et al., 1975).

During the development of the SCS, factor analysis determined the existence of two different but stable dimensions of self-consciousness: public and private. A third subscale, social anxiety, was also included but is used for measuring the amount of discomfort one feels while in the presence of others (Fenigstein et al., 1975). Public self-consciousness concerns one's awareness of the self as a social object and concern over how one is perceived by others. The other subscale, private self-consciousness, is defined as "the awareness of one's personal thoughts and feelings" (e.g., "I'm always trying to figure myself out" Fenigstein et al., 1975). As in the previous

research, only the PSC subscale was used for the purposes of data collection. It consists of 10 items, has reliability of .79 over a 2-week period, and shows only moderate to low correlations with the other subscales (Fenigstein et al., 1975).

Hypotheses

This experiment was focused on two separate but related hypotheses. First, it was predicted that a trend would emerge showing an inverse relationship between private self-consciousness and the sober-intoxicated value correlations. In accordance with Hull's theory, those subjects who were high in private self-consciousness should become less self-aware when intoxicated. The decrease in self-awareness was to be measured by the subject's correlation score on the terminal scale of the value survey. Low correlations were expected for those who experienced the greatest reduction in self-awareness. A similar regression analysis was also performed using the position movement (PM) scores instead of the correlational data.

The other hypothesis concerned the difference in scores between the two groups (high and low private self-consciousness). Using the PM scores from the value surveys, it was predicted that the high private self-conscious group would have higher position movement scores as a result of the alcohol.

Method

Subjects

Seventeen males enrolled in a midwestern university served as subjects in this experiment. All subjects were voluntary participants who were at least 21 years of age. Each subject was informed about the general nature of the experiment and told that participation included the consumption of alcohol. All subjects were treated in accordance with the "Ethical Principles of Psychologists" (American Psychological Association, 1981).

Materials

All subjects who responded to the recruitment notice were first contacted by phone and given a pre-screening evaluation at that time. Subjects who passed the pre-screening were told about the experimental procedure and scheduled to begin. During the first session, subjects were asked to complete both the Self-Consciousness Scale (Fenigstein et al., 1975) and the Rokeach Value Survey form G. For the purposes of this study, only the private self-consciousness subscale from the SCS was used in the data analysis.

Procedure

Experimental procedures were carried out during two separate testing sessions. Subjects were initially asked to come in and complete the SCS, RVS, and another survey form unrelated to this experiment. Each subject was given individual instructions and all testing was conducted in separate rooms to avoid any group interaction. After completion of the two surveys, the experimenter scheduled the subjects to return in

approximately 2 weeks to complete the second half of the experiment. All participants were told that as part of the second session procedure they would have to consume an alcoholic beverage. For these reasons they should either walk to the lab or transportation would be arranged for by the experimenter. Subjects were asked not to eat 3-4 hr prior to the experiment nor should they consume any alcoholic beverages before the session. A breathalyzer test (Alco-Sensor III, Intoximeters Inc., St. Louis, Mo.) was given to all subjects at the start of every session to establish that no one was under the influence before participating. All subjects were cooperative and followed the experimenter's instructions.

During the second session, subjects were given an alcoholic beverage which raised their BAC to the target level of .075% For each individual, an estimate calculated according to their body weight was used to determine how much alcohol should be given. In order to restrict the volume of liquid subjects had to drink, a mixture of grain alcohol and pineapple/orange juice was used for the alcoholic beverage. Each subject received a sufficient amount of alcohol to obtain a .075 BAC level.

Subjects were then given 30 min to consume the drink, followed by a 30 min waiting period to allow for absorption. After enough time elapsed for the alcohol to be absorbed, subjects' BAC was again measured. Immediately following this, subjects were asked to complete both the SCS and the RVS for the second time. After completion of the surveys, all participants were debriefed and then escorted to their residence.

Results

RVS Correlations and PSC

A regression analysis was used to test the hypothesized relationship between private self-consciousness and the use of self-referent material. Accordingly, intoxication should cause a reduction in self-awareness (as measured by the sober-intoxicated RVS correlations) for those subjects with elevated PSC scores. Correlations between the sober and intoxicated conditions for the terminal value scale of the RVS were computed using the Spearman rho formula. The coefficients had a mean of .074 (*SD*=.297, range= -.51-.43). Each subject's PSC score was then correlated with their respective sober-intoxicated correlation coefficients from the terminal scale of the RVS. This analysis yielded a nonsignificant result *r*=-.269 (see Figure 1) and a standard error of estimate of .286. These calculations were also done using Fisher's transformed values of *r'* instead of *r*. The correlation between the PSC scores and the transformed terminal correlations was slightly less, *r*=-.265, but still very similar.

Position Movement Scoring

Due to the lack of normality in a sampling distribution of correlation coefficients, an alternative method to scoring the

RVS was used in addition to the Spearman's rho. The position movement scores consisted of making a comparison between the intoxicated and sober rankings of each value and calculating a cumulative total of how many positions each value moved. For example, if the value "Health" was ranked first during the sober condition and then ranked 5th during the intoxicated condition, the position movement score for the first value would be 4. After each protocol was scored using this method, the cumulative total should accurately represent the amount of change between conditions.

Use of the position movement scores was desirable for several reasons. The primary advantage was the use of a ratio scale of measurement which allowed for greater flexibility in the statistical methods. The PM scores should also be more sensitive because they measure change in rank positions whereas the correlation coefficients measure covariation of the two variables. For purposes here, all position movement (PM) scores will represent the data taken from only the terminal value scales. The mean score for the PM scoring method was 48.6 (SD=18.33, range= 26-90). A regression analysis was performed on the position movement scores and their respective PSC scores. This result was also non-significant, r= -.108 and the standard error of estimate was 18.22.

Subjects were then divided into 2 groups according to their scores on the PSC subscale. A median split was used for this procedure and subjects whose scores were at the median were not included in the analysis. The two groups, high and low private self-consciousness, were compared to determine if a difference existed in their PM scores on the terminal values. The mean for the high group was 40.38 (SD=13.14, N=8); the mean for the low group was 51.43 (SD=20.32, N=7). The analysis revealed that the high and low PSC groups were not significantly different, (t(13)=1.27).

Discussion

The findings of the present study failed to demonstrate that a relationship exists between private self-consciousness, alcohol, and the sober-intoxicated correlations on the RVS. Visual inspection of Figure 1 suggests conflicting results, but the regression line is actually no different than what would be expected by chance. Due to the apparent lack of a relationship among the data points, little can be said in regard to the original hypothesis. The data can neither support nor dispute the reduced self-awareness theory of drinking and has relevancy only in regard to future research using similar methods.

Discussion of Dependent Measures

Examination of the PSC scores reveal several points worth noting about its use as a research tool. The distribution of scores was symmetric but leptokurtic as evidenced by the

clustering around the mean. One possible explanation might be the small sample (N=17) that was used. However, Fenigstein et al. (1975) found very similar results (M=25.9, SD=5.0) when using a sample size of 432. The lack of dispersion among the PSC scores is also a disadvantage for using the median split method. Some of the PSC scores in the high and low groups were only 2 or 3 points apart which meant the two groups were still rather homogeneous. A better method, given enough subjects, would be to use the upper and lower 1/3 of the distribution and eliminate those in between.

One final point about the PSC scale concerns its test-retest reliability. As mentioned earlier, the SCS was given during both experimental sessions. The correlation over the 2-week period for the PSC scale was r=.798, which agrees precisely with what Fenigstein et al. (1975) reported. However, during the second session of the present experiment, subjects were intoxicated as compared to previous work (Fenigstein et al. 1975) where the subjects were sober for both sessions. The agreement between the test-retest reliability estimates suggest that the alcohol had no measurable effect on the subjects' self-report of their private self-conscious tendencies.

There are several issues of relative importance concerning the use of the RVS in this experiment. The most important one pertains to the low test-retest correlations that were found. Many of the coefficients were unusually low - several showing high negative correlations - which disputes Rokeach's claim of reliability. Shotland and Berger (1970) and Rokeach (1973) argue that values are relatively stable and particularly influential regarding one's behavior. If this is true, then either alcohol severely disrupts one's value system or it did in fact have a devastating effect on the subject's ability to encode or to report the information. If the latter is true, the observed results would indicate a ceiling effect due to the oversensitivity of the RVS. The subject matter of the survey appears to be face valid regarding its use as self-referent material. Unfortunately, it may be overly vulnerable to shifts in the subject's ability to use organizational abilities or elaborative cues. Thus, one possible shortcoming of this experiment concerns the dependent measure which was overly sensitive to the effects of alcohol intoxication.

Suggestions for future research

Subsequent investigations in the area of alcohol and self-awareness might be best served by using several dependent measures together and possibly excluding the RVS. Any replications of this research would require a much larger sample size because of the low correlations between the PSC scores and the RVS. Sample size estimation using power analysis and an effect size ( )=.30 indicates an N=46 subjects would be necessary for power =.50 if the RVS was used in a replication study. For a considerable increase such as power =.80, an N=88

would be necessary (Howell, 1982). Another reason for securing a large sample concerns the lack of dispersion among the PSC scores. Using the upper and lower one-third method, a large sample is necessary in order to get a sufficient number of subjects in the high and low groups.

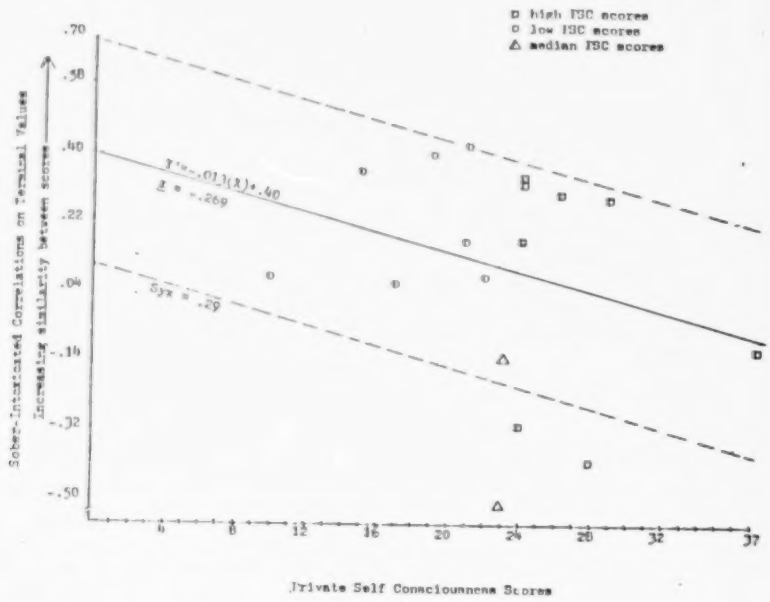

Figure 1. Scatter plot showing value correlations regressed on self-awareness scores.

Appendix D

Data Summary

Subject	Pre PSC	Post PSC	Pre-BAC	Sober-Intox. Correlations Term.	Instr.	Position Movement Scores Term.	Instr.
* 1	24	21	.080	.24	-.37	28	76
2	21	20	.059	.18	.33	90	64
3	19	17	.039	.40	-.17	44	80
4	17	17	.073	.07	.04	42	54
5	21	25	.060	.43	.08	26	46
* 6	26	22	.031	-.30	.33	59	46
* 7	24	17	.083	.33	-.39	30	82
8	23	17	.067	.15	.06	72	56
9	15	19	.065	.36	.06	46	60
* 10	24	22	.071	.20	.15	32	70
* 11	24	25	.058	-.30	.25	52	44
12	10	11	.074	.08	.17	10	88
13	22	14	.078	.08	-.25	64	64
* 14	27	33	.077	-.11	-.08	42	60
15	23	17	.100	-.51	.12	72	88
* 16	29	23	.081	.27	-.01	26	46
* 17	28	29	.076	-.41	.07	54	26
Totals	387	350	1.30	1.26	.29	827	1060
Means	22.7	20.6	.077	.074	.017	48.6	62.4
SD	5.9	5.6	.012	.297	.208	18.2	16.2

* indicates high PSC scores

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